REMARKS

Claims 1 and 4-21 are pending in the present Application. Claims 5, 10, 18 and 19 have been amended, leaving Claims 1 and 4-21 for consideration upon entry of the present amendment.

Support for the amendment to Claims 5 and 10 can at least be found in Figure 3 and the corresponding description in the specification (for example, from page 18, line 22 to page 19, line 2).

Claims 18 and 19 have been amended merely to provide increased clarity to the claims.

No new matter has been introduced by these amendments. Reconsideration and allowance of the claims are respectfully requested in view of the above amendments and the following remarks.

Claim Objections

Claims 5-14 and 18-21 are objected to because of minor informalities contained in Claims 5, 10, 18 and 19.

Claims 5 and 10 have been amended to remove the language "each pixel" to more clearly indicate the relationship with the "plurality of pixels".

Claims 18 and 19 have been amended to indicate that "a metal layer with a thickness reduced to a level of a thin film through which light can be partially transmitted is used as the semitransparent electrode".

In light of these clarifying amendments, Applicant respectfully requests that the objection to the claims be withdrawn.

Claim Rejections Under 35 U.S.C. § 102(b)

Claims 5, 7, 10, 12 and 18-19 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Tamura (U.S. 6,410,168).

This rejection is moot in light of Applicant's clarifying amendments to independent Claims 5 and 10. Nevertheless, Applicant presents the following discussion regarding Tamura in order to be fully responsive to the present Office Action.

As is clarified in amended independent Claims 5 and 10, the second electrode (cathode) is formed as a common electrode for a plurality of pixels arranged in a matrix along

the row direction and the column direction in the display section. In addition, a common antireflective layer is formed with respect to a plurality of pixels arranged in a matrix along the row direction and the column direction covering the second electrode (cathode) on a back side of the second electrode (cathode). In other words, the antireflective layer is formed covering the entire display section. Therefore, the antireflective layer not only has a function of antireflection in each pixel region, but also allows prevention of reflection of external light at a gap between pixels. Moreover, because the antireflective layer is formed common to all of the plurality of pixels arranged in a matrix and on the second electrode, it is possible to discharge heat generated in the light emitting element through the antireflective layer. Furthermore, by covering the entire display section, the antireflective layer also functions to prevent intrusion, into the light emitting layer, of water, oxygen, etc., that may adversely affect the light emitting function.

In Tamura, on the other hand, the second electrode at a side on which a low optical reflection layer is provided has a stripe pattern and is not formed common to pixels arranged in a matrix along the row direction and the column direction. In fact, as will be described below, fundamentally, it is not possible in Tamura to form the second electrode as a common electrode. In addition, in Tamura, in the first through third and sixth embodiments, there is only a description that a low optical reflection layer is formed over the second electrode having the stripe pattern. In other words, there is no disclosure in Tamura indicating that the low optical reflection layer is formed over the entire display region, also covering a region in which the second electrode formed in a stripe pattern does not exist.

From Fig. 3 of Tamura, which is a cross sectional view of the organic electroluminescence element 20, it is clear that Tamura does not show that the low optical reflection layer is formed over the entire display region. Although it is not clear which cross section of the organic electroluminescence element 20 is shown in Fig. 3, it is possible to assume that Fig. 3 shows a cross section of one pixel because the transparent electrode 12 and the second electrode (metal electrode) 14 each of which having a stripe pattern are shown continuous without a discontinuity. If this is the case, it is clear that Tamura does not disclose that the low optical reflection layer is formed over a plurality of the second electrodes having the stripe pattern. In other words, if the low optical reflection layer is formed over the entire display region in Tamura, the second electrode 14 in Fig. 3 should be shown in a stripe pattern. However, Fig. 3 does not show such a structure, and, thus, it is possible to assume

that the low optical reflection layer is not formed over the entire display region in Tamura.

Therefore, Tamura fails to disclose formation of a low optical reflection layer on the second electrode having a stripe pattern, as a common layer "for all the plurality of pixels arranged in a matrix" and does not recognize the necessity for employing such a structure.

Since Tamura fails to disclose at least one claimed element, independent Claims 5 and 10 are not anticipated and are therefore allowable. Moreover, Claims 7, 12, 18 and 19 that various depend from and further limit either Claim 5 or 10 are, by definition, also allowable.

Claim Rejections Under 35 U.S.C. § 103(a)

Claims 1, 4, 6, 8-9, 13-17, and 20-21 are rejected under 35 USC 103(a) as allegedly being unpatentable over Tamura in view of U.S. Patent No. 6,258,618 (Lester), and/or U.S. Patent Application Publication No. 2003/0160259 (Uemura), and/or U.S. patent Application Publication No. 2003/0117059 (Koo et al.).

A. Claims 6, 8, 9, 13, 14, 20, and 21

These claims variously depend from and further limit independent Claims 5 and 10. In addition to the above comments regarding Tamura, Applicant submits the following remarks to illustrated that even if combined, the combined references would fail to teach or suggest at least one claimed element of independent Claims 5 and 10 and therefore fail to teach or suggest at least one claimed element of Claims 6, 8, 9, 13, 14, 20, and 21.

As described above, the optical reflection layer in Tamura does not cover the entire display region as a common layer, and thus, cannot function to prevent reflection at a pixel position, protect the light emitting layer from the environment, and have high heat discharging characteristic.

Moreover, in Tamura, adjacent second electrodes must be insulated. Therefore, when a low optical reflection layer is to be formed on the second electrodes, great care must be taken not to short-circuit the second electrodes, and, thus, a person with ordinary skill in the art would not be motivated to actively form the low optical reflection layer covering, as a common layer, the adjacent second electrodes. In the structure of Tamura, because pixels are formed at intersections of the second electrode and first electrodes formed also in a stripe pattern along a direction crossing the extension direction of the second electrode, when the second electrodes having the stripe pattern are electrically connected, the second electrodes

cannot be controlled separately and independent pixels cannot be formed. In other words, in Tamura, the second electrode cannot be formed common to all pixels arranged in a matrix and, with the same reason, a person with ordinary skill in the art would not be motivated to form the low optical reflection layer as a common layer for all pixels arranged in a matrix because the low optical reflection layer is usually formed using a metal material and is formed over the second electrodes.

In the fourth and fifth embodiments of Tamura, the low optical reflection layer is not formed on the second electrode, but rather, is formed on a surface of a sealing substrate placed distanced from the EL element with a space therebetween. When the low optical reflection layer is formed on the sealing substrate provided distanced from the substrate on which the light emitting element is formed, the low optical reflection layer cannot function, regardless of the material of the layer, to discharge heat generated in the EL element and cannot function to prevent intrusion of water, oxygen, etc., from the outside of the light emitting element.

As described, Tamura fails to disclose or even suggest that the second electrode 4 is formed as a common layer for a plurality of pixels arranged in a matrix and does not consider a structure in which an antireflective layer which is common to a plurality of pixels arranged in matrix similar to the second electrode is provided covering the second electrode. Therefore, the presently claimed invention differs from Tamura.

In other citations, for example, in Lester and Demura, a mesh pattern having an opening is employed as an electrode on the side from which light is emitted and the electrode on the side from which light is emitted is not an electrode common to a plurality of pixels arranged in a matrix. Therefore, the advantages of the presently claimed invention that can be obtained by providing the antireflective layer on the electrode on the side from which light is emitted cannot be obtained. In fact, when an antireflective layer is provided on the electrode having an opening as described in Lester, etc., the light from the element would not be emitted to the outside. Therefore, a person with ordinary skill in the art would never be motivated to combine these citations with Tamura and the presently claimed invention cannot be made by combining the citations. Thus, the presently claimed invention cannot be viewed as obvious from the combination of the citations.

Further, Koo merely discloses that a black matrix is formed between a substrate 100 and a TFT and a person with ordinary skill in the art will not be motivated to combine

Tamura and Koo.

For at least these reasons, even if combined, the combined references would fail to teach or suggest at least one claimed element of independent Claims 5 and 10, and thus fail to teach or suggest at least one claimed element of 6, 8, 9, 13, 14, 20 and 21.

B. Claims 1, 4, 16 and 17

Independent Claim 1 discloses the semitransparent electrode made of a metal layer with a mesh pattern is an electrode on a side of the display opposite to the electrode on a side from which the light is emitted to the outside an antireflective layer is provided on a back side of the semitransparent electrode. By employing the metal layer with a mesh pattern as the electrode opposing the electrode on the side from which the light is emitted, it is possible to use an electrode material which is identical to that when the semitransparent electrode is not employed and to prevent reflection while the light emission efficiency of the light emitting element is maintained.

Tamura, on the other hand, fails to disclose or even suggest the use of a metal layer with a mesh pattern as the semitransparent electrode. In addition, Tamura fails to recognize the meaning of the ability to use an electrode material which is identical to that when no semitransparent electrode is employed, by employing a metal layer with a mesh pattern.

In Lester and Demura, as is already described, merely a mesh pattern having an opening is employed as the electrode on the side from which light is emitted. When an antireflective layer is provided on the electrode having an opening in Lester, etc., the light from the element would not be emitted to the outside. In addition, Lester fails to recognize the use of the semitransparent electrode for antireflection as the electrode positioned at a side opposite to the side from which light is emitted to the outside.

Therefore, a person with ordinary skill in the art would not be motivated to combine these citations with Tamura, and the presently claimed invention cannot be made even when the citations are combined. Therefore, the presently claimed invention cannot be viewed as obvious from these citations.

As described above, Koo merely discloses that a black matrix is formed between the substrate 100 and the TFT. Therefore, Koo would not motivate a person with ordinary skill in the art to use a semitransparent electrode made of a metal layer with a mesh pattern as the electrode opposing the electrode on the side from which light is emitted. Thus, a person with

ordinary skill in the art would not be motivated to combine Tamura, Lester, or Demura with Koo.

In view of the foregoing, it is respectfully submitted that the instant application is in condition for allowance. Accordingly, it is respectfully requested that this application be allowed and a Notice of Allowance issued. If the Examiner believes that a telephone conference with Applicant's attorneys would be advantageous to the disposition of this case, the Examiner is cordially requested to telephone the undersigned.

In the event the Commissioner of Patents and Trademarks deems additional fees to be due in connection with this application, Applicant's attorney hereby authorizes that such fee be charged to Deposit Account No. 06-1130.

Respectfully submitted,

CANTOR COLBURN LLP

By
Joel T. Charlton
Registration No. 52,721

Date: May 4, 2006
CANTOR COLBURN LLP
55 Griffin Road South
Bloomfield, CT 06002
Telephone (404) 607-9991
Facsimile (404) 607-9981
Customer No.: 23413